

Air Traffic Control that the plane's main landing gear was not extended and that Caves should exercise a standard "go around" to evaluate his landing gear extension options and make another attempt at landing. Caves again made an unsuccessful attempt to land the aircraft and subsequently, the plane crashed just south of the South Bend airport. The pilot and Davis were killed. Passengers Rodgers and Evans were seriously injured.

The surviving passengers assert claims of negligence against Beechcraft Corporation ("Beechcraft") and Hawker Beechcraft Global Customer Support, LLC ("HGCS") and a products liability claim against Beechcraft. Their spouses, Sheryll Rodgers and Jill Evans, assert claims of loss of consortium against both defendants. Plaintiffs seek compensatory and punitive damages.

In the pending motion, defendants seek to exclude or alternatively limit expert testimony by Frank Graham, on the basis that the testimony fails to meet *Daubert* and Fed. R. Evid. 702 standards.³ Specifically, defendants contend:

- A. Graham is not qualified and was not retained to give expert opinions on allegations of defective design or manufacture, including electrical systems, landing gear or manuals. Further, any opinions he has expressed are not based on any factual foundation or reliable methodology.
- B. Graham's CVR/ATC analysis opinions should be excluded because his failure to cooperate in discovery has left defendants unable to test the reliability of his opinions.
- C. Graham's opinions that sound exemplars produced by Beech were deficient and/or unprofessional should be excluded. Alternatively, his CVR analysis,

³ Graham prepared an initial Rule 26 Expert Report dated February 1, 2016. [Dkt. #56, Ex. 5]. He prepared a Supplemental Rule 26 Expert Reported dated April 15, 2016. [*Id.*, Ex. 6]. Exhibit 6, which is sealed, can be found at Dkt. #63.

which relies on those exemplars, should be excluded as unsupported by adequate factual foundation.

D. Graham should not be permitted to speculate about Caves' state of mind based on the CVR recording.

[Dkt. #56 at 2].

II. Applicable Law

Rule 702 of the Federal Rules of Evidence provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

When an objection to an expert's testimony is raised, the court must perform *Daubert* gatekeeper duties before the jury is permitted to hear the evidence. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-93 (1993); *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 149 (1999). A trial court's gatekeeper duty requires two separate inquiries: (1) the witness must be qualified to offer the opinions he is espousing and (2) the proponent of the witness bears the burden of proving by a preponderance of the evidence that its witness's opinions are both relevant and reliable. *Kumho Tire*, 526 U.S. at 141, 152. In this case, plaintiffs' *Daubert* challenges focus on the second inquiry—reliability and/or relevance.

In *Daubert*, the Supreme Court identified four nonexclusive factors the trial court may consider to assist in the assessment of reliability: (1) whether the opinion at issue “can be (and has been) tested;” (2) whether the theory or technique has been subjected peer review and publication; (3) in the case of a particular scientific technique, the known or potential rate of

error; and (4) the degree of acceptance of the opinion within the relevant scientific community. 509 U.S. at 593-94. *See also Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1233 (10th Cir. 2004).

This list is not exclusive, and district courts applying *Daubert* have broad discretion to consider a variety of other factors. *Dodge v. Cotter Corporation*, 328 F.3d 1212, 1222 (10th Cir. 2003) (citing *Kumho Tire*, 526 U.S. at 150). “[T]he test of reliability is ‘flexible,’ and *Daubert*’s list of specific factors neither necessarily nor exclusively applies to all experts or in every case. Rather, the law grants a district court the same broad latitude when it decides *how* to determine reliability as it enjoys in respect to its ultimate reliability determination.” *Kumho Tire, Id.* at 141-42 (emphasis in original).

An expert’s testimony may be excluded where it is based on subjective beliefs or unsupported speculation which is no more than *ipse dixit* guesswork. *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (holding that trial court may properly exclude *ipse dixit* opinions where “there is simply too great an analytical gap between the data and the opinion proffered”).

It is critical that the district court determine whether the evidence is genuinely scientific, as distinct from being unscientific speculation offered by a genuine scientist. *Dodge*, 328 F.3d at 1222. “Regardless of the specific factors at issue, the purpose of the *Daubert* inquiry is always to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Id.* at 1222-23.

The second prong of the *Daubert* inquiry concerns relevancy or “fit.” The trial court must conduct inquiry into whether proposed testimony is sufficiently “relevant to the task at hand.” *Bitler*, 400 F.3d at 1234 (citing *Daubert*, 509 U.S. at 597). A trial court must look at the logical

relationship between the evidence proffered and the material issue that evidence is supposed to support to determine if it advances the purpose of aiding the trier of fact. *Id.* at 1234. “Even if an expert’s proffered evidence is scientifically valid and follows appropriately reliable methodologies, it might not have sufficient bearing on the issue at hand to warrant a determination that it has relevant ‘fit.’” *Id.*

III. Graham’s Background/Qualifications

Graham is the owner and president of Aerovox Forensics Investigations & Research, Inc., a multi-disciplinary firm specializing in air crash litigation support and aviation safety consulting. [Dkt. #56, Ex. 5 (Graham Expert Report)]. He describes himself as a “[N]ationally known expert witness in aircraft accident investigation with specialty in CVR analysis, transcription, forensic audio, and video animation/photo/graphics.” [*Id.* at 13 (Graham Resume)]. Graham has a bachelor’s degree in German from University of North Carolina and a master of science degree in speech pathology from Winthrop University. [*Id.* at 15]. He did doctoral studies in communicative disorders at the University of South Carolina. [*Id.*]. He has a juris doctor from Wake Forest School of Law, but testified he is not an attorney. [*Id.* at 14; Dkt. #56, Ex. 4 (Graham Dep., 27:18-25)]. He has a certificate in aviation safety management from Embry-Riddle Aeronautical University, a certificate in aircraft accident investigation from the Air Line Pilots Association, and FAA licenses as an airline transport pilot and certified flight instructor. [Dkt. #56, Ex. 5 at 14]. However, he is not current as a pilot, has not flown without an instructor in thirteen years and has never flown a jet airplane (aside from a simulator). [Dkt. #56, Ex. 4 (Graham Dep., 25:4-20)]. He has not acted as a flight instructor in the air for approximately twenty-five years. [*Id.*, 33:22-34:4)].

IV. Analysis

A. Opinions Regarding Piloting Performance and Defective Design or Manufacture

1. Piloting Issues

In his supplemental report, Graham offered a number of opinions about Caves' piloting performance, including:

- That during the entire CVR recording, Caves exhibited “extraordinary situational awareness, professionalism, checklist use, compliance with FAA regulations, and excellent knowledge of aircraft systems, the latter of which he discussed with the right seat occupant using techniques rarely seen in pilots who are not flight instructors or check airmen. [Dkt. #63, pp. 27-28, ¶ 4].
- That Caves likely moved the throttles out of cutoff during the first unsuccessful attempt to out of cutoff during the first, unsuccessful attempt to restart an engine after shutdown, in part because this would have been “muscle memory” for him, as an action that he had performed “hundreds of times” before. [*Id.*, pp. 12-13].

Additionally, in his deposition, Graham testified that he does not think a pilot would have been stressed when the copilot reached over and shut the engines off at 6,700 feet altitude because “that is all the space in the world.” [Dkt. #56, Ex. 4, Graham Dep., 225:25-226:21)].⁴

Graham also testified about what he would do in Caves' situation at certain points of the flight, including:

- [J]ust because [Graham] didn't read out a checklist out loud does not mean he did not follow one. I would not have if I had been the pilot. [*Id.*, 202:15-18]
- First, they said you don't have any landing gear, and now they say it appears to be nose only. I would be on the horn asking for another flyby and asking him what else is wrong. And I probably would have had the trucks a lot closer. [*Id.*, 249:1-6].

⁴ Numerous times, Graham—when asked questions about Caves' piloting skills and performance—deferred to plaintiffs' “piloting experts,” Haider and Bloomfield. [*Id.*, 53:22-54:4; 186:23-187:2; 210:11-211:14]. Haider opined that Caves should not have had a non-jet-rated passenger at the controls at 6,700 feet descending into South Bend. [Dkt. #108, Ex. 2 at 1c; Dkt. #108, Ex. 8, Haider Dep., 96:18-97:3].

In his supplemental report, Graham—referencing statements made by a Beechcraft pilot who was working with the NTSB to create exemplar sounds for the accident investigation—stated, “Beechcraft’s pilot stressed that pilots are habitual people and do things the same way every time, specifically their actions when starting an engine.” [Dkt. #63 at 32, ¶ 18].

Plaintiffs argue Graham should be permitted to testify about these issues because “[a] certain degree of knowledge regarding the operation of the Premier is necessary foundation to understand and put the CVR/ATC audio in context” and “Graham can certainly rely on Plaintiffs’ expert pilot and the AFM checklist, in conjunction with what he heard on the CVR/ATC audio, to conclude that based upon the audio, Caves performed as a reasonably prudent pilot.” [Dkt. #120 at 7].

However, Graham is not current as a pilot, has not flown without an instructor in thirteen years, and has never flown a jet airplane (aside from a simulator). [Dkt. #56, Ex. 4, Graham Dep., 25:4-20]. He has not acted as a flight instructor in the air for approximately twenty-five years. [*Id.*, 33:22-34:4]. He is not qualified to proffer expert testimony concerning Caves’ skill, professionalism, piloting performance or state of mind.

Accordingly, the undersigned recommends that defendants’ motion be granted with respect to Graham’s opinions concerning Caves’ piloting performance.

2. Equipment/Electrical Issues

In his initial report, Graham opined that “[t]he subject aircraft could not be successfully landed with the front (nose) gear deployed and the main gear retracted.” [Dkt. #56, Ex. 5, p. 6]. When he was questioned during his deposition about the methodology and factual basis for this opinion, Graham testified that he conducted a Google search and a search of the NTSB accident database. [*Id.*, Ex. 4, Graham Dep., 56:11-58:7; 59:3-25]. Asked whether he conducted any

other type of investigation before reaching this opinion, he stated, “Other than in my mind and thinking about how I would do it in that pilot’s shoes, no.” [*Id.*, 60:3-11].

Neither Graham’s limited internet research nor his experience qualify him to proffer the challenged opinion. The undersigned recommends that defendants’ motion be granted with respect to this issue.

Additionally, Graham testified that certain noises on the CVR and air traffic control (“ATC”) recordings were “electrical noise.” [*Id.*, 149:5-10, 149:19-23]. However, he also stated that he had not determined the origin of the noises and that he would “defer to our electrical expert” on that issue. [*Id.*, 150:19-23].

As Graham has admitted, he is not an electrical expert. Accordingly, the undersigned recommends that while he should be permitted to describe noises he hears on the CVR and ATC recordings (i.e. “static”), he should not be permitted to identify them as “electrical noises.”

B. Graham’s CVR/ATC Analysis

1. Failure to Cooperate in Discovery

Fed. R. Civ. P. 26(a)(2)(A) requires parties to disclose the identity of any expert witness they may use at trial. The disclosure must be accompanied by a written report prepared by the witness and containing, *inter alia*, a complete statement of all opinions the witness will express and the basis and reasons for them; the facts or data considered by the witness in forming them; and any exhibits that will be used to summarize or support them. Fed. R. Civ. P. 26(a)(2)(B)(i)-(iii).

In his April 15, 2016, Supplement to Rule 26 Expert Report, Graham disclosed for the first time that he had received and reviewed CVR audio recordings provided by NTSB and ATC audio recordings provided by the FAA. [Dkt. #63 at p. 2]. Based on his analysis of the

recordings, he listed a number of opinions about what was said by Caves and Davis and what other sounds can be heard on the recordings. [*Id.*, pp. 27-29]. Included in his opinion was the statement that during the restart attempt, “a sound not inconsistent with that of thrust lever movement can be heard.” [*Id.* at p. 13]. Further, based on his analysis, Graham concluded that “it is more likely than not, that the pilot moved the thrust lever from cutoff to idle at the appropriate time per the POM, just as he had done hundreds of times when starting the engines before every other flight.” [*Id.*].

Although the supplemental report disclosed Graham’s reliance on the audio recordings, he did not produce the recordings in conjunction with the report.

Defendants deposed Graham on May 12, 2016. [Dkt. #56, Ex. 4, Graham Dep.]. On May 11, 2016, defendants’ counsel advised plaintiffs’ counsel that he wanted to ask him to demonstrate the sound and requested that Graham bring with him to the depositions “the evidence and anything he needs to play that sound during his deposition.” [*Id.*, Ex. 8]. Graham did not bring any of the recordings to the deposition. He stated that the request was “wholly impractical” because it had been made only 24 hours before the deposition. [*Id.*, Ex. 4, Graham Dep., 137:10-17]. He testified he would need special hardware that was the length and width of a sheet of paper, which he did not own anymore, and eight sets of headphones. [*Id.*, 137:18-138:13]. He said he had a headphone amp for two people but it was hardwired in his office. [*Id.*, 137:13-16]. Furthermore, he stated, “[Y]ou asked me to do something that will only be done and I would only do on my terms and probably off the record.” [*Id.*, 138:17-19].

In his deposition, Graham described the sound in question as “consistent with the movement of throttle levers,” and as a “click with a slight double hitch to it,” and said that it was “clearly visualized” in Figure 7A to his report—a dual spectrogram which showed the accident

plane and the exemplar Premier. [*Id.*, 140:6-24]. Graham was shown Figure 8A to his report—another dual spectrogram with similar visual representations—and was asked what caused those sounds, and how the sounds differed from the one he circled in Figure 7A. [*Id.*, 158:7-15]. He responded: “I can’t tell you without listening to it and looking at a spectrogram.” [*Id.*] Further, he stated: “Do you want to hire me and pay me 300 bucks an hour, I will be glad to tell you what those are, if I can.” [*Id.*, 159:20-160:6]. He testified the sounds depicted on Figure 8A “were examined and compared and eliminated as being the same because “the sound is different. It’s not power levers. It’s not the same sound.” [*Id.*, 160:24-161:9]. However, Graham admitted it was not fair to look at just the spectrogram to determine what a sound is; instead both the spectrogram and the actual audio should be examined. [*Id.*, 253:4-13].

Defendants contend that demonstrating a sound does not require eight sets of headphones and that the only equipment necessary to play a sound during a deposition would be a laptop with speakers and Adobe Audition software. [Dkt. #56 at 15 and Ex. 9, Jean H. Slane Declaration].⁵ They ask the court to strike Graham’s testimony concerning the recordings because, absent the actual recordings, Graham’s methodology and factual foundation for his CVR and ATC analysis cannot be evaluated for reliability, as Rule 703 requires.

Plaintiffs assert that if defendants wanted the audio recordings, they should have submitted a request for production of documents pursuant to Fed. R. Civ. P. 34, then—if plaintiffs did not produce the recordings—they should have filed a motion to compel pursuant to Fed. R. Civ. P. 37. This argument is specious. Rule 26(a)(2)(A) governs expert disclosure, and plaintiffs’ failure to provide the audio recordings at the time of Graham’s supplemental report

⁵Defendants also draw the court’s attention to *Littlejohn v. Jet Logistics, Inc.*, Case No. 11-CVS-24301 filed in Mecklenburg County, North Carolina, a case in which Graham was stricken as an expert witness for failure to cooperate in discovery. [Dkt. #46 at 15-16 and Exs. 11-12].

violated the rule. Moreover, the supplemental report was provided less than a month before Graham's deposition. As a result, had defendants been forced to resort to Rules 34 and 37, they would quite likely have been unable to procure the audio recordings in time for the deposition.

"Rule 26 'imposes a . . . duty to disclose information regarding expert testimony sufficiently in advance of trial so that opposing parties have a reasonable opportunity to prepare for effective cross examination and perhaps arrange for expert testimony from other expert witnesses.'" *ClearOne Communications, Inc. v. Biamp Systems*, 653 F.3d 1163, 1176 (10th Cir. 2011) (quoting Fed. R. Civ. P. 26(a)(2) Advisory Committee's Note (1993)). As Graham admitted, a sound cannot be identified solely by looking at spectrograms. In order to properly evaluate Graham's opinions, defendants needed to have the actual audio recordings relied on by Graham in reaching his conclusion that he heard the throttle being moved.

Generally, when a party fails to comply with Rule 26(a)'s disclosure requirements, the party "is not allowed to introduce the expert witness's testimony . . . at trial." *Id.* (citing *Ciomber v. Coop. Plus, Inc.*, 527 F.3d 635, 641 (7th Cir. 2008)) (quoting Fed. R. Civ. P. 37(c)(1)). However, Rule 37(c) allows district courts to admit expert witness testimony despite a party's failure to comply with Rule 26(a) if the violation is "justified or harmless." *Clearone*, 653 F.3d at 1176 (citing Fed. R. Civ. P. 37(c)(1)).

The Tenth Circuit has instructed that, in determining whether the violation was justified or harmless, the court should consider the following factors: "(1) the prejudice or surprise to the party against whom the testimony is offered; (2) the ability of the party to cure the prejudice; (3) the extent to which introducing such testimony would disrupt the trial; and (4) the . . . party's bad faith or willfulness." *Jacobsen v. Deseret Book Co.*, 287 F.3d 936, 953 (10th Cir. 2002).

Defendants were clearly prejudiced by plaintiffs' failure to produce the audio recordings, and the evidence shows that Graham's conduct, at the very least, borders on bad faith. However, because all remaining dates in the trial schedule have been stricken pending resolution of *Daubert* motions, the undersigned concludes that prejudice to defendants can be cured provided the audio recordings are produced and defendants are given a chance to depose Graham again. Assuming that Graham is timely deposed, there should be no risk of disruption of the trial.

Accordingly, the undersigned recommends that (1) plaintiffs be ordered to produce the CVR and ATC audio recordings; (2) by a date set by the District Court, Graham be made available for deposition on his opinions concerning the audio recordings at a mutually agreeable location, date and time; and (3) plaintiffs be required to pay travel costs of defendants (if any) and any fees charged by Graham for the additional deposition.

2. Sound Exemplars

In conducting his CVR and ATC recording analysis, Graham did not obtain his own exemplars of sounds of various switches and maneuvers in a Premier, but relied instead on exemplar recordings produced by defendants. [Dkt. #56, Ex. 4, Graham Dep., 95:25-96:8]. Graham admitted that he could have obtained exemplar sounds of a Premier given enough "time, money and permission," but the cost of the exemplars could easily have been "ten grand." [*Id.*, 256:16-19; 259:17-21]. He testified that he suggested to plaintiffs' counsel they should get exemplar sounds, but "that was rendered moot when this disk that, to my understanding, was represented as being a scientific appropriately conducted recording of exemplar sounds was presented to me that . . . obviated the need for further testing." [*Id.*, 260:11-261:8]. Graham was not aware that plaintiffs had actually obtained three other Premiers for testing. [*Id.*, 257:3-21].

Graham harshly criticized the quality of the exemplars. He explained in his report that he compared the sample sounds on the exemplars to the sounds on the CVR, but stated “there is a caveat in this particular part of my analysis because the Beechcraft test was done on the ground, parked, with unspecified equipment and no state or observable formal test protocol/parameters.” [Dkt. #63, Supplement to Report, p. 8]. In his report, he stated that “[t]he aircraft sound exemplar ground test recordings conducted by Beechcraft were not performed in an appropriate, scientific manner, and their use for comparative forensic analysis is therefore compromised.” [Id., p.28, ¶ 5]. When asked during his deposition how the sound recordings would be made “if the NTSB and/or Beech were trying to obtain the very best exemplar sounds,” Graham responded, “In a manner very different from the way it was done. I’m very shocked that the NTSB had anything to do—No, I’m not. I’m not surprised.” [Dkt. #56, Ex. 4, Graham Dep., 254:22-255:6]. Further, he testified at some length about how the exemplars should, in his opinion, have been prepared. [Id., at 255:8-21; 258:3-259:16].

Defendants argue that plaintiffs are trying to “use the sound exemplars that Beech produced in discovery as both a sword and a shield.” They urge that the court either (1) exclude Graham’s opinions on sounds as unreliable because they are based on exemplars he contends were not made in a scientifically appropriate manner or (2) preclude Graham from denigrating the professionalism of Beech and NTSD personnel and suggesting their recordings weren’t conducted in a “scientifically appropriate” manner.

Fed. R. Evid. 702(b) requires the expert’s opinion to be based on “sufficient facts and data.” The Tenth Circuit has held that *Daubert* does not govern this issue because, “[b]y its terms, the *Daubert* opinion applies only to the *qualifications of an expert and the methodology or reasoning used* to render an expert opinion” and “generally does not . . . regulate the underlying

facts or data that an expert relies on when forming her opinion.” *United States v. Lauder*, 409 F.3d 1254, 1264 (10th Cir. 2005) (emphasis added). In assessing the sufficiency of the facts, the trial court should conduct “a quantitative rather than qualitative analysis.” Fed. R. Evid. 702 Advisory Committee Note to 2000 Amendments. As another district court has held, “the Court does not examine whether the facts obtained by the witness are themselves reliable—whether the facts used are qualitatively reliable is a question of the *weight* to be given the opinion by the factfinder, not the *admissibility* of the opinion.” *United States v. Crabbe*, 556 F. Supp.2d 1217, 1223 (D. Colo. 2008) (emphasis in original). Accordingly, the trial court should limit its inquiry under Rule 702(b) to “whether the witness obtained the amount of data that the methodology itself demands.” *Id.*

This is clearly a Rule 702 issue. Defendants’ complaints go to the weight Graham’s opinions should be accorded, rather than the admissibility of the opinions. If Graham elects to base his sound analysis on the exemplars he has sharply criticized, then a properly instructed jury will be permitted to decide the weight it will give his opinions. Therefore, the undersigned recommends that defendants’ motion be denied as to this issue.

3. “State of Mind” Testimony

In his expert report, Graham stated: “Examination of the pilot’s voice in the form of fundamental frequency/pitch analysis revealed that he exhibited little, if any psychological stress before, during, and after the emergency.” [Dkt. #63, Supplement to Graham Expert Report at p. 29, ¶ 13]. Further, he stated, that “Even when faced with multiple emergency conditions, based upon F0 [pitch] analysis, the pilot remained calm and professional during the cascading systems and control failures he encountered . . . exceedingly so.” *Id.*, p. 18].

Defendants seek to suppress these opinions as being lacking in foundation and of limited probative value. The undersigned agrees that the proposed opinions are problematic, for several reasons.

First, the CVR stopped operating approximately two minutes after the engines were shut down. Therefore, nobody knows whether, in the next six minutes between CVR shutdown and the crash, Caves' voice continued at the same rate, pitch and volume. As a result, Graham's opinion that Caves remained calm and professional "before, during, and after the emergency" lacks foundation.

Second, even if it could be established that Caves was "calm" throughout the ordeal, the CVR does not provide any foundation for Graham's conclusion that he was behaving in a professional manner and/or followed the proper checklist procedures. Moreover, as previously stated, Graham is not qualified to testify concerning piloting issues.

Third, Graham's opinion that Caves was "calm" and experiencing "little, if any psychological stress," is of limited probative value. In Graham's own opinion, the shutdown of both engines at 6,700 feet was not particularly stressful. Graham stated, "Man, that is all the space in the world," and "Low to me is below 1,500 feet. [Dkt. #56, Ex. 4, Graham Dep. at 225:25-226:21].

Finally, although plaintiffs theorize that "cascading systems and control failures" caused the jet to crash, Graham does not have the expertise, nor has he established a foundation to express such an opinion.

Therefore, the undersigned recommends that defendants' *Daubert* motion be granted with respect to Graham's opinions that Caves was calm, that his voice exhibited "little, if any

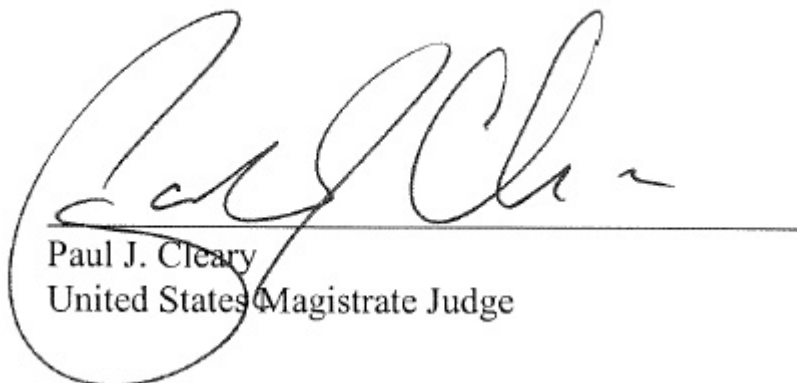
psychological stress before, during and after the emergency,” and that the pilot remained “calm and professional during the cascading systems and control failures he encountered.”

V. Conclusion

For the reasons set forth above, the undersigned recommends that defendants’ Motion to Exclude and/or Limit the Testimony of Frank Graham [Dkt. ##56, 108] be **GRANTED IN PART AND DENIED IN PART**, as set forth above.

In accordance with 28 U.S.C. § 636(b) and Fed. R. Civ. P. 72(b)(2), a party may file specific written objections to this report and recommendation, but must do so by November 9, 2016. If specific written objections are timely filed, the District Judge assigned to this case will make a *de novo* determination in accordance with Rule 72(b). A party waives District Court review and appellate review by failing to file objections that are timely and sufficiently specific (the “firm waiver rule”). *Moore v. Astrue*, 491 Fed. Appx. 921, 923 (10th Cir. 2012) (unpublished), citing *United States v. One Parcel of Real Property*, 73 F.3d 1057, 1060 (10th Cir. 1996).

ENTERED this 26th day of October, 2016.



Paul J. Cleary
United States Magistrate Judge